

REMARKS

Reconsideration and allowance of the present application based on the following remarks is respectfully requested.

Applicants thank Examiner Ford for the courtesy extended to Applicant's representative during a personal interview on May 16, 2001. During the interview, the Examiner appeared to favorably consider claims 8 and 17, subject to an updated search. In addition, Examiner Ford agreed that JA-156049 does not teach corrugated fins, as originally recited in claims 6 and 14.

A Request for Approval of Drawing Corrections is submitted concurrently herewith. In the Request for Approval of Drawing Corrections, reference numerals have been added which identify an air-blowing passage, an air introduction port, an air introduction port upper end, a downwardly inclined end of the cooling heat exchanger, and a cooling heat exchanger higher side and lower side.

In the Specification, a new paragraph has been added on page 22, line 20, after the first complete paragraph. The new paragraph introduces the air-blowing passage, the air introduction port, the air introduction port upper end, the downwardly inclined end of the cooling heat exchanger, and the cooling heat exchanger higher side and lower side, each of which are clearly shown in Fig. 2. Pending the approval of the proposed drawing correction, each of these elements are identified with a reference numeral in Fig. 2.

The Examiner has noted the similarity of the present application to SN 09/460,795. SN 09/460,795 was expressly abandoned under Rule 138 on March 8, 2001. A Notice of Abandonment for this application is dated 3/19/01.

The Examiner has requested Applicants provide serial numbers and relationships of any

SHIROTA et al. - APPLICATION NO. 09/531,531

other child application which depend for continuity on any of the listed applications: 08/531,383; 08/731,792; 09/038,902; 09/460,795; 09/531,531.

Application 09/816,384, filed March 26, 2001, is a divisional of the present application U.S. Serial No. 09/531,531.

The Examiner has requested Applicants provide the publication dates of all priority documents.

The publication date of Japanese application No. 6-240362 is April 23, 1996. The publication date of Japanese application No. 7-235505 is May 13, 1997. Japanese application No. 7-235505 is a continuation of Japanese application Nos. 6-227592 and 7-220903 and contains all subject matter contained in both applications Nos. 6-227592 and 7-220903. As such, application Nos. 6-227592 and 7-220903 were not carried through to publication and only application No. 7-235505 was published. The publication date of Japanese application No. 7-270148 is April 28, 1997. The publication date of Japanese application No. 7-281479 is May 13, 1997.

The Examiner has requested that Applicants provide a description of how SN 08/731,792 differs in disclosure from SN 08/531,383. During the interview, the Examiner indicated that the cases had been ordered from the PTO file repository and he would perform the analysis required to determine the differences between SN 08/731,792 and SN 08/531,383.

The Examiner has requested that Applicants provide a complete translation of the cited Japanese prior art references. 37 CFR 1.98 (c) states that "If a written English-language translation of a non-English document, or a portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in 1.56 (c), a copy of the

SHIROTA et al. - APPLICATION NO. 09/531,531

translation shall accompany the statement." Substantial portions of the Japanese prior art references cited by Applicants have been translated in response to the request and are attached to this reply. Applicants submit the translations present all of the relevant subject matter within the Japanese prior art references cited by Applicants. Additionally, JP-61-75305 is a publication document of JP-Y-5-3365, and all subject matter of JP-61-75305 is the same as JP-Y-5-3365.

Claims 1 - 14 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-7 of U.S. Patent 5,755,107. Claims 1 - 14 were also rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-16 of U.S. Patent 6,044,656. Applicants respectfully traverse these rejections.

The requirements for an obvious type double patenting rejection are set forth in the MPEP (section 804 B. 1.). These requirements have not been met by the Examiner. Namely, the Examiner has not established the proper factual determinations of establishing the differences between the inventions defined by the conflicting claims, and establishing the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the parent. The proper factual inquiries are set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). In the present situation, the Examiner has not performed any comparison between the claims of the application with the claims of the U.S. Patents 5,755,107 and 6,044,656. Accordingly, Applicants respectfully traverse the rejection.

The Examiner indicated in the interview that he would perform a more thorough double patenting analysis. The Examiner is requested to contact the undersigned in the event that a terminal disclaimer is required.

SHIROTA et al. - APPLICATION NO. 09/531,531

A complete copy of Japanese Publication JP-Y-5-3365 (Identified by the Office Action as JA 5-003,365) is supplied herewith. A full page, partial translation of this reference is also provided herewith.

Claims 1 - 14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The expressions "at a center of the instrument panel" and "width direction" were recited in cancelled claims 1 and 13, which renders this rejection moot.

To the extent that remaining amended claims 6 and 14, and new independent claim 21, also include language found relating to the vehicle, Applicants traverse the rejection. Claims 6, 14 and 21 are explicitly drawn to an air conditioner. The expression "passenger compartment" is used in the claims merely to identify the environment with which the air conditioner cooperates. Moreover, new claims 24 and 25 are added, by this Amendment, and are directed to a vehicle including the air conditioner of claims 6 and 14, respectively, thereby further showing that claims 6 and 14 are directed to the subcombination of the air conditioner. Withdrawal of this rejection is respectfully requested.

Claims 1 - 14 were rejected under 35 U.S.C. 102(b)/103(a) over JA 6-156049. Applicants respectfully traverse the rejection.

As agreed during the personal interview, JA 6-156049 fails to disclose, teach or suggest, without limitation, an air conditioner that includes, *inter alia*, a cooling heat exchanger that includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes, as is recited in independent claims 6 and 14. JA 6-156049 does not disclose the structure of the cooling heat exchanger having corrugated fins. A cooling heat exchanger that includes corrugated fins is advantageous (see, for example, Figures 43

SHIROTA et al. - APPLICATION NO. 09/531,531

through 45B, and pages 61 and 62 in the specification). Accordingly, withdrawal of the rejection is respectfully requested:

Claims 1-14 were rejected under 35 U.S.C. 103(a) over JA 6-156049 and further in view of JA 0167318, prior art FIG. 19 of the present application, or Netherlands 166433 (FIG. 1). This rejection is respectfully traversed.

JA 0167318, prior art FIG. 19 of the present application, and Netherlands 166433 (FIG. 1) were merely used in the Office Action to teach central mounting of the air conditioner, as was previously claimed in cancelled Claim 1. None of these references address the deficiencies noted above with respect to JA 6-156049. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-14 were rejected under 35 U.S.C. 103(a), further in view of JA 56-82628 or JA 56-149819. This rejection is respectfully traversed.

JA 56-82628 and JA 56-149819 were merely used in the Office Action to teach a positional relationship between the blower and cooling heat exchanger. Neither of these references address the deficiencies noted above with respect to JA 6-156049. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-14 were rejected under 35 U.S.C. 103(a), further in view of Bates (US 1909144), Mullin (US 3000192), Brandecker (US 2552396), Gebhardt (US 2703223) or Martsteller (US 3492833). This rejection is respectfully traversed.

Bates (US 1909144), Mullin (US 3000192), Brandecker (US 2552396), Gebhardt (US 2703223) and Martsteller (US 3492833) were merely used in the Office Action to teach an orientation of tubes within a cooling heat exchanger. Gebhardt (US 2703223) was also merely

SHIROTA et al. - APPLICATION NO. 09/531,531

used in the Office Action to teach an orientation of a drain relative to a cooling heat exchanger.

None of these references address the deficiencies noted above with respect to JA 6-156049.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

By this Amendment, claims 6 and 14 are amended for clarity only. Specifically, claim 6 has been amended to replace the recitation "disposed to be shifted" with the recitation --offset-- as this expression more clearly describes the position of the blower relative to the cooling heat exchanger. Claim 14 has been amended to merely correct a typographical error. The recitation "hear" has been replaced with the recitation --heat--. The Examiner indicated in the interview that the amendment to claims 6 and 14 would not be a basis for a final rejection.

Claims 7-12 depend from claim 6 and are allowable by virtue of that dependency, and for the additional features they recite. For example, claim 7 recites that air is horizontally blown from the blower toward the cooling heat exchanger. This feature is not disclosed or suggested in JA 6-156049 which discloses a vertical direction of air blown from the blower to the cooling heat exchanger. Additionally, modifying JA 6-156049 so that air is horizontally blown from the blower toward the cooling heat exchanger would not be obvious. This modification would necessitate the change in position of the blower relative to the cooling heat exchanger. Namely, the blower would need to be moved upward and forward within the vehicle. Such a change would contradict the intent of JA 6-156049 which was to provide an air conditioner with minimal depth when placed in a vehicle. Additionally, the modification would be impossible. As is shown in FIG. 1 of this reference, the firewall 14, restricts this modification.

Additionally, claim 8 is specifically drawn to a said cooling heat exchanger that is inclined such that the cooling heat exchanger includes a higher side and a lower side. The

cooling heat exchanger is arranged in the air passage such that air blown by the blower is directed to the side through the air passage from the blower toward the higher side of the cooling heat exchanger and subsequently toward the lower side of the cooling heat exchanger. Air blown by the blower passes upwardly through the cooling heat exchanger. This configuration of the cooling heat exchanger and blower is not disclosed or suggested in JA 6-156049. None of the teaching references relied upon by the Office Action disclose or suggest this configuration of the cooling heat exchanger and blower in automotive air conditioner.

Claim 19 recites that the cooling heat exchanger includes a higher side and a lower side, and the blower includes a centrifugal fan. The centrifugal fan is offset from the cooling heat exchanger to the higher side of said cooling heat exchanger, and the centrifugal fan is laterally spaced apart from the higher side of the cooling heat exchanger. The blower and the cooling heat exchanger do not overlap in vertical planes. This feature is not disclosed or suggested in JA 6-156049 which discloses a blower disposed beneath the cooling heat exchanger so that air is blown vertically from the blower to the cooling heat exchanger. Additionally, modifying JA 6-156049 so that the blower and the cooling heat exchanger do not overlap in vertical planes would not be obvious. This modification would necessitate the change in position of the blower relative to the cooling heat exchanger. Namely, the blower would need to be forward within the vehicle. Such a change would contradict the intent of JA 6-156049 which was to provide an air conditioner with minimal depth when placed in a vehicle. Additionally, the modification would be impossible. As is shown in FIG. 1 of this reference, the firewall 14, restricts this modification.

Attached hereto is a marked-up version of the changes made to the specification and

claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

New claims 15-20 depend from claim 6 and are allowable by virtue of that dependency, and for the additional features they recite.

New independent claim 21 is drawn to a positional relationship of an air inlet, for the passage of air into the blower, and the cooling heat exchanger. The air inlet is disposed at an upper portion of the blower. The lower side of the cooling heat exchanger is positioned lower than the air inlet. This positional relationship of the inlet, for the passage of air into the blower, and the cooling heat exchanger is not disclosed or suggested in JA 6-156049. This positional relationship is also not disclosed or suggested in the teaching references relied upon in the Office Action. Accordingly, claim 21 is allowable. New claims 22 and 23 depend from claim 21 and are allowable by virtue of that dependency, and for the additional features they recite.

New independent claims 24 and 25 are drawn to vehicles and include all of the features of claims 6 and 14, respectively. Accordingly, claims 24 and 25 relate to claims 6 and 14 as combination and subcombination, and restriction of claims 24 and 25 would be inappropriate.

New independent claim 26 is drawn to an air conditioner including a cooling heat exchanger disposed in an air passage. The cooling heat exchanger is inclined such that the cooling heat exchanger includes a higher side and a lower side. Air is blown through the air passage toward the higher side and subsequently toward the lower side. This feature is not shown in the prior art cited by the Examiner. New claims 27 depends from claim 26 and is allowable by virtue of that dependency, and for the additional features recited.

New dependent claims 28 through 39 have been added which depend from independent

SHIROTA et al. - APPLICATION NO. 09/531,531

claims 6, 14, 21, and 24-26. These claims are drawn to additional features of the invention and are allowable by virtue of their dependency on claims 6, 14, 21, and 24-26, and for the additional features recited therein.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,
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Enclosures: 1)Appendix
2)Partial translations of cited prior art

Appendix: Version with markings to show changes made

Claims 1-5 and 13 were cancelled.

Claims 6-9, 11, 12 and 14 are amended as follows.

6. (Twice Amended) An air conditioner for an automotive vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air is blown into the passenger compartment;

a blower for blowing air in said case into the passenger compartment;

a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air to be blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air blown into the passenger compartment, wherein[:]

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and

said blower is [disposed to be shifted] offset from said cooling heat exchanger to a side of said cooling heat exchanger.

7. (Amended) An air conditioner according to claim 6, wherein said blower and said cooling heat exchanger are disposed in such a manner that air is approximately horizontally

blown from said blower toward [to a lower side of] said cooling heat exchanger, and
wherein air is introduced into said cooling heat exchanger from below [upwardly] the
cooling heat exchanger.

8. (Twice Amended) An air conditioner according to claim 6, wherein:
air is blown from said blower in an air-blowing passage;
said cooling heat exchanger is disposed on an extending line of said air-blowing passage
[continually]; [and]

 said cooling heat exchanger is inclined such that the cooling heat exchanger includes a
higher side and a lower side; and
 said cooling heat exchanger is arranged in the air passage such that air blown by the
blower is directed through the air passage from the blower toward the higher side of the cooling
heat exchanger and subsequently toward the lower side of the cooling heat exchanger, and such
that air blown by the blower passes upwardly through the cooling heat exchanger.

9. (Amended) An air conditioner according to claim [8] 6, wherein said tubes
extend in a direction approximately equal to [an air blowing] a direction of air blown in said air-
blowing passage from the blower to the cooling heat exchanger.

11. (Amended) An air conditioner according to claim 6, wherein:
said case has a drain port for draining condensed water from said cooling heat exchanger
to an outside of said case; and
 said drain port is provided at a [most bottom] bottom-most portion of said case [at a
lower side of said cooling heat exchanger].

12. (Amended) An air conditioner according to claim 6, wherein:

said case has a first opening for blowing air toward an upper side of the passenger compartment, a second opening for blowing air toward a lower side of the passenger compartment, and a third opening for blowing air toward a windshield [of the vehicle]; and

said mode switching member is disposed at an upper side of said heating heat exchanger to selectively open and close said first opening, said second opening and said third opening.

14. (Amended) An air conditioner for a vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air flows into the passenger compartment; a cooling heat exchanger for cooling air, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air flowing into the passenger compartment is conditioned, said heating [heat] heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air flowing into the passenger compartment, wherein

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and [wherein] said cooling heat exchanger is disposed in said case so that air is introduced into a space under said cooling heat exchanger from a side of said cooling heat exchanger.

Claims 15 through 39 were added.